

## WHAT IS CLAIMED IS:

1. A method for recycling metals from swarf in removing oil sticking on the surface of grinding, cutting debris of metal workpiece  
5 and recycling metal swarf, said method comprising steps of:

(1) Shattering: shattering swarf into tiny particles:

(2) Washing: putting swarf in a washing tank and washing it with a washing solution:

(3) Separating solid from liquid: separating washed solid from  
10 the washing solution:

(4) Drying: drying the solid got in the step (3);

(5) Separating oil from water: collecting the washing solution after washing and removing the oil floated on the upper level of the washing solution:

(6) Arranging and storing washing solution: collecting the  
15 washing solution finished oil-removing and storing it properly:

Characterized by said washing solution composed of aqueous alkali non-ionic surfactant, builders and water, said aqueous alkali non-ionic surfactant mainly involving polyethoxylated alkyl.

2. The invention in accordance with claim 1, wherein said  
20 aqueous surfactants are polyethoxylated alkyl ethers containing hydrophobic alkyl ethers and hydrophilic polyethoxylene.

3. The invention in accordance with claim 1, wherein the

aqueous alkali non-ionic surfactant in said washing solution are polyethoxylated alkyl ethers.

4. The invention in accordance with claim 3, wherein said hydrophilic polyethylene contain about 9 to about 14 moles of ethylene  
5 oxide.

5. The invention in accordance with claim 3, wherein said hydrophobic alkyl ethers contain one methyl group and about 10 to about 14 moles of methylene group.

6. The invention in accordance with claim 1, wherein each liter  
10 of said washing solution contains about 50 gums to about 200 gums of aqueous alkali non-ionic surfactant.

7. The invention in accordance with claim 2, wherein said builders in each liter of said washing solution contains about 5 gums to about 50 gums of sodium silicate.

15 8. The invention in accordance with claim 2, wherein said builders in each liter of said washing solution contain about 1 gram to about 10 grams of sodium tripolyphosphate.

9. The invention in accordance with claim 2, wherein said builders in each liter of said washing solution contains about 1 gram to  
20 about 50 grams of sodium carbonate.

10. The invention in accordance with claim 1, wherein the PH values of said washing solution are about 10.5 to about 11.5.

11. The invention in accordance with claim 1, wherein said

aqueous surfactant solution is preheated to temperatures ranging from about 45 to about 60 degree Celsius before contacting grinding swarf.